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Movements and Distribution of Western Arctic Caribou Herd Across Buckland Valley and Nulato Hills, Winter of 1986 - 87

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MOVEMENTS AND DISTRIBUTION OF WESTERN ARCTIC CARIBOU HERD ACROSS BUCKLAND VALLEY AND NULATO HILLS WINTER OF 1986-87

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INTRODUCTION

Movements and distribution of Western Arctic Herd (WAH) caribou (Rangifer tarandus granti) were monitored in the Buckland Valley and Nulato Hills by personnel from Bureau of Land Management (BLM) and Alaska Department of Fish and Game (ADF&G) during the 1986-87 winter. This undertaking was part of a much larger multi-agency project, including participation by the U.S. Fish and Wildlife Service (USF&WS) and National Park Service (NPS). The BLM also conducted a complementary monitoring project of the Merlin Henry reindeer (R. t. tarandus) allotment during the same winter. This report will only summarize caribou movements across the Buckland Valley and Nulato Hills, and fulfills partial implementation of the Buckland Valley Habitat Management Plan (HMP) (Adams 1982). Results from previous caribou surveys on the Seward Pennisula were reported by Smith (1984, 1985) and Smith and Machida (1986). Funding was provided by each agency for its share of the accomplished work.

OBJECTIVES

Objectives of this project are (1) to document seasonal migration patterns and winter range of WAH caribou in the Buckland Valley and Nulato Hills, and (2) to provide timely information to reindeer herders of impending contact between reindeer and caribou.

STUDY AREA

The Buckland Valley and Nulato Hills encompass approximately 6,299,000 acres of BLM lands. This area is bounded on the north by the Selawik Hills and Purcell Mountains, on the east by the Koyukuk and Yukon Rivers, on the south by the Unalakleet River, and on the west by Norton Sound and the Seward Peninsula (Figure 1). A detailed description of the study area can be located in the Buckland Valley HMP, Northwest Unit Resource Analysis, and Central Yukon Resource Management Plan (Adams 1982, BLM 1982, BLM 1986).

METHODS

Locations of radio-collared caribou were determined during aerial surveys using a Cessna 206. Surveys were planned monthly from September through April, but inclement weather and conflicting time schedules with BLM personnel prevented surveys during November and February. ADF&G personnel maintains a computer file for data storage and retrieval, which is organized by individual radio frequencies. I also entered the habitat use data into a master wildlife computer file for the BLM Kobuk District.

RESULTS

ADF&G personnel affixed 26 new radio-transmitting collars on caribou as they crossed the Kobuk River at Onion Portage between 27 August and 5 September 1986. This brings the total number of WAH caribou with radio-transmitting collars to 40. Personnel from ADF&G and BLM tracked movements of the caribou seven times during the 1986-87 winter (Table 1). An average of 28 radio-collared caribou (range 23 - 36) were relocated during each trip from September through March; only six collars were relocated during April.

TABLE 1. AERIAL SURVEYS OF WAH CARIBOU
BUCKLAND VALLEY AND NULATO HILLS, WINTER OF 1986-87

FLIGHT NUMBER	SURVEY DATE	TOTAL BLM FLIGHT HOURS	TOTAL NUMBER RELOCATIONS	PERSONNEL
1	9/25-26/86	0	23	D.James (ADF&G)
2	10/20/86	0	28	J.Coady, S.Machida (ADF&G)
3	10/28-29/86	12.50	25	S.Robinson, B.Gal, D.James
4	12/23-24/86	4.75	31	B.Gal, J.Coady, S.Machida
5	1/26-28/87	9.78	25	S.Robinson, L.Field
6	3/16-17/87	12.50	36	S.Robinson
7	4/13-14/87	10.00	6	L.Field, L.Knapman

During September, caribou moved south within a narrow corridor along the Tagagawik River towards the headwaters of the Kateel, Gisasa, and Nulato Rivers (Figure 1). During October, caribou continued to move southward to the North and Unalakleet watersheds. By this time, their distribution had widened in an east-west direction from the upper Nulato River to the lower Shaktoolik River. On a reindeer monitoring flight, we discovered caribou tracks crossing the hills between the Buckland and Kiwalik Rivers. By December, caribou began drifting north to the North, Shaktoolik, and Ungalik watersheds (Figure 2). Their east-west distribution remained the same as in October. By January, the herd's distribution was confined mostly to the Shaktoolik and Ungalik watersheds, with a major concentration of animals in the headwaters of the Ungalik River. Two large groups (thousands of caribou) were located in March: one in the headwaters of the Inglutalik, Ungalik, and Kateel Rivers and the other in the eastern most portion of the Selawik Hills. By this time, their distribution had compressed back to a relatively narrow corridor. David James (ADF&G-Kotzebue) discovered caribou in the Purcell Mountains during his Spring Composition Survey (March/April). By April, many of the radio-collared caribou were north of the Kobuk River.

Merlin Henry grazed his reindeer along the lower Ingutalik River during early winter. However, when caribou moved close to the reindeer in November, Merlin herded his animals westward across the Koyuk River. Merlin returned his animals back to the lower Ingutalik River after caribou left the area.

Palmer Sagoonick, whose reindeer grazing allotment is south of Merlin Henry's allotment (Figure 3), also encountered problems with caribou moving close to his reindeer in November. In recent years, Mr. Sagoonick has kept his reindeer near the village of Shaktoolik, which has minimized conflicts with caribou in the area.

DISCUSSION

Smith (1984) reported thousands of animals had moved west of the Kiwalik River during the 1982-83 winter and again the following winter. More caribou had apparently moved onto the Seward Peninsula in 1983-84 than in 1982-83. Furthermore, they ranged farther (Koyuk River) and remained longer in 1983-84 than in previous years. Thousands of caribou moved southward to the upper Shaktoolik and upper Kateel Rivers in 1983-84. Smith (1985) reported small numbers of caribou in the Selawik Hills and Buckland Valley during the 1984-85 winter. Caribou ranged as far south as the Koyuk and Shaktoolik Rivers, but not along the north coast of the Seward Peninsula west of the Kiwalik River. Smith and Machida (1986) reported "substantial numbers of caribou" migrated southward to the upper Anvik River and "several thousand caribou" migrated westward to the Kiwalik and Koyuk watersheds during the 1985-86 winter.

Buckland Valley has been an important winter range of WAH caribou since the 1950's (Adams 1982). Tens of thousands of caribou have been known to occupy it in past winters. Data collected during the most recent five winters show expansion of their winter range to the Kiwalik River in 1982-83; to the Koyuk, Shaktoolik, and Kateel Rivers in 1983-84 and 1984-85; and to the Unalakleet River in 1985-86 and 1986-87. Caribou must first cross the Buckland Valley before reaching these new areas, and again during their return trip north. This range expansion parallels population growth of the herd from 75,000 animals in 1976 to 230,000 in 1986.

Buckland Valley has also been used for reindeer grazing in past years (Adams and Robus 1981). Where ranges of caribou and reindeer overlap, resident reindeer will link with transient caribou. NANA lost several thousand reindeer during the 1982-83 and 1983-84 winters, but none were reported lost during the 1984-85 winter (Smith 1984, 1985). During fiscal year 1986, NANA lost approximately $375,000 in the value of their herd due to reindeer being lost to migrating caribou and have consequently disposed of their herd (NANA n.d.) This year, caribou moved within close range of Merlin Henry's reindeer for the second consecutive year. Some reindeer were apparently lost during the first year (Smith and Machida 1986), but none were reported lost during the second year. Caribou also moved within close range of Palmer Sagoonick's reindeer this year. Obviously, economic hardship to the reindeer herders can occur when their animals leave with migrating caribou.

As a means of resolving this conflict, BLM will accept a permit application for reindeer grazing in Buckland Valley only after five consecutive years of non-use by caribou (Adams 1982, BLM 1982). ADF&G (1984) will recommend against issuing additional reindeer permits on ranges currently occupied by caribou or with a high probability of being occupied by caribou in the future.

CONCLUSIONS AND RECOMMENDATIONS

Western Arctic caribou have traditionally used the Buckland Valley as winter range. However, relocations of radio-collared animals have demonstrated for the past two years that caribou migrate across the valley to spend a major portion of the winter either in the Nulato Hills or on the Seward Peninsula. BLM should continue working with ADF&G, USF&WS, and NPS to monitor movements and distribution of WAH caribou in future years.

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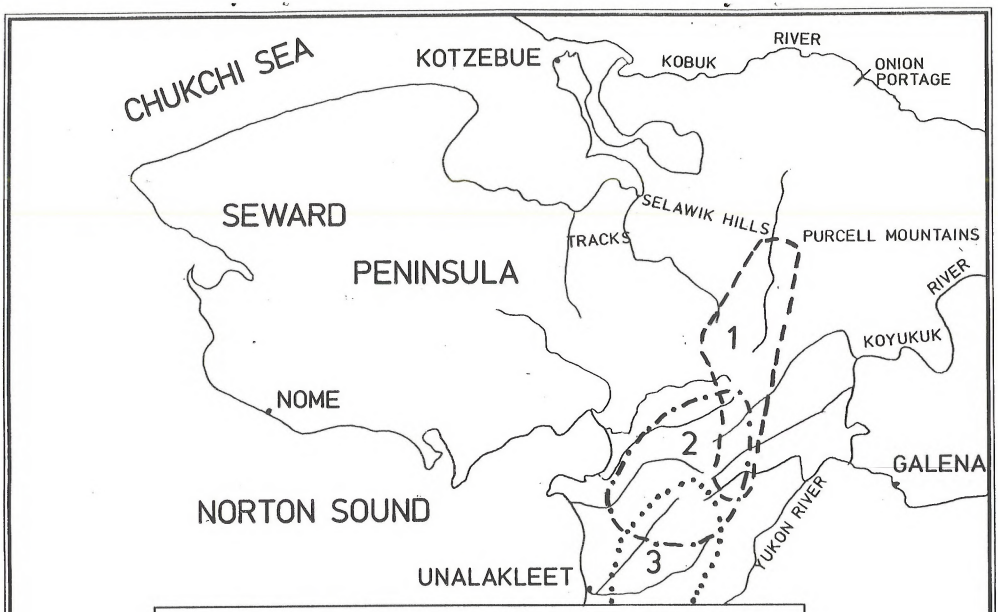

FIGURE 1. Southward migration of WAH caribou, 1986–1987 winter.
Flight numbers: (1) 9/25–26/86, (2) 10/20/86, (3) 10/28–29/86.

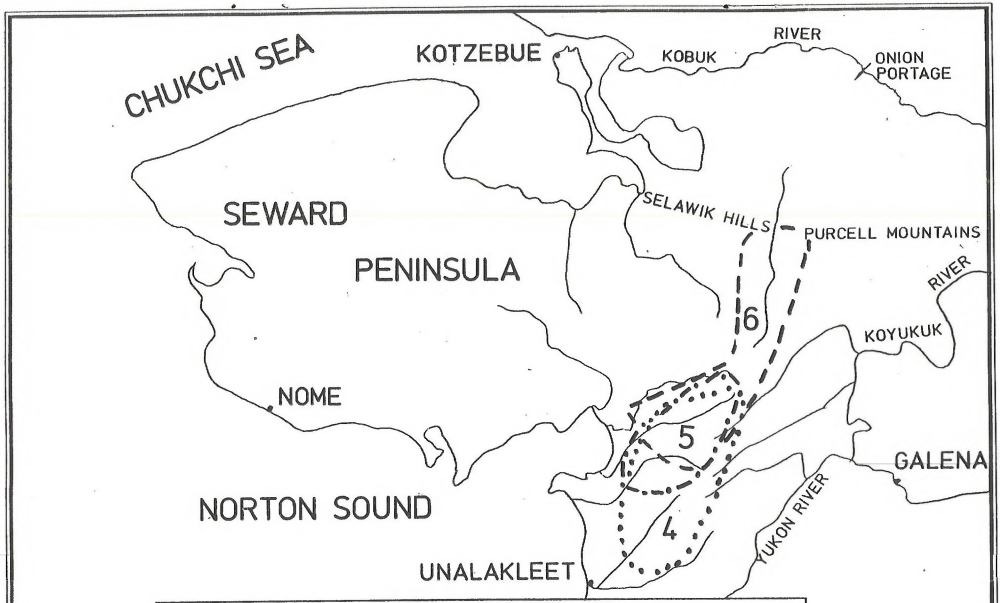

FIGURE 2. Northward migration of WAH caribou, 1986–1987 winter.
Flight numbers: (4) 12/23–24/86, (5) 1/26–28/87, (6) 3/16–17/87.

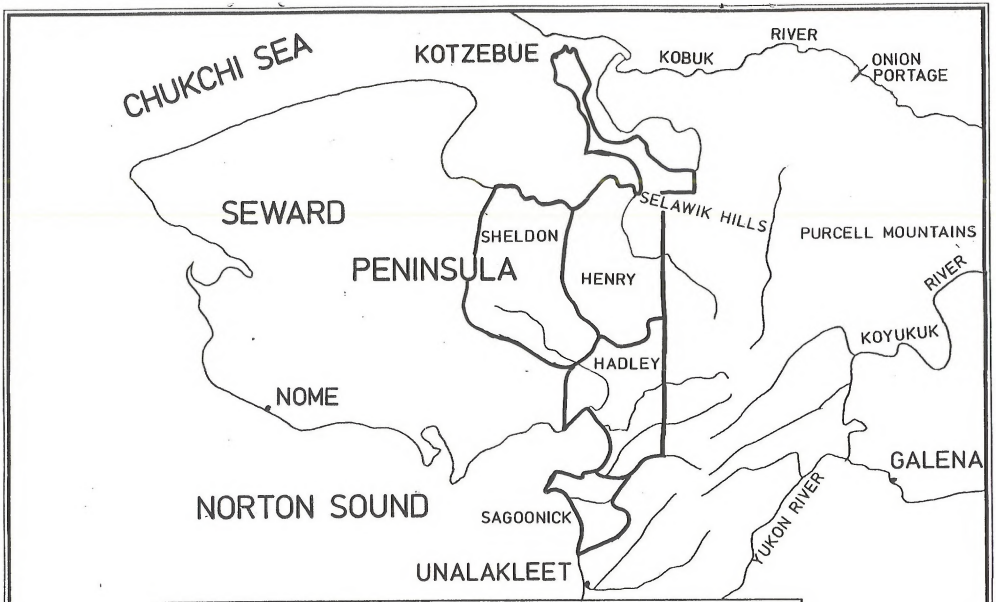

FIGURE 3. Reindeer grazing allotments on the eastern portion of the Seward Peninsula.

BLM Mission Statement

The Bureau of Land Management is responsible for the balanced management of the public lands and resources and their various values so that they are considered in a combination that will best serve the needs of the American people. Management is based upon the principles of multiple-use and sustained yield; a combination of uses that takes into account the long term needs of future generations for renewable and non-renewable resources. These resources include recreation, range, timber, minerals, watershed, fish and wildlife, wilderness, and natural, scientific and cultural values.

BLM-Alaska Mission Statement

In Alaska, the Bureau of Land Management is responsible for carrying out the mandates of the Alaska Native Claims Settlement Act, the Alaska National Interest Lands Conservation Act, and the Alaska Statehood Act along with the Federal Land Policy and Management Act and other federal laws. These duties make cooperative management a vital necessity. BLM-Alaska's success as a public land guardian and resource manager is dependent on its ability to serve the public through mutual understanding. Sustaining a working partnership with the public is a key element of multiple use management, given the special nature of Alaska and its people. To this end, BLM-Alaska:

*exists to serve the public

*safeguards the land and ensures needed resources are available to future generations

*keeps the nations promises of the land to the Natives and the State of Alaska

*serves as an information storehouse for the public